SEM206PV IN-HEAD TEMPERATURE TRANSMITTER, (0 to 10) V OUTPUT

> **SUITABLE FOR Pt100 TEMPERATURE SENSORS**

> **3 WIRE (0 to 10) VOLT OUTPUT**

> **PC PROGRAMMABLE TEMPERATURE RANGE**

> **HIGH STABILITY**

> **CONNECTION HEAD or RAIL MOUNT (with clip option)**

> ## INTRODUCTION

The SEM206PV is a cost-effective digital in-head transmitter that accepts Pt100 temperature sensors and converts sensor output over a configured range to a standard industrial (0 to 10) V control signal. The output is linear to temperature.

PC configuration allows the user to select Range and Burnout direction, without requiring calibration equipment. Configuration is performed quickly using our USB port-driven configurator by simply connecting two clips to the SEM206PV power terminals and following the software instructions. Calibration set up may be saved as a file on the PC for later use.

If required, the desired range can be specified at the time of order, removing the need for user configuration. If the range is not specified, then the transmitter will be shipped with the default range of (0 to 100) °C and upscale burnout.

> ## FEATURE HIGHLIGHTS

SENSOR CORRECTION

The SEM206PV sensor referencing via, the Windows based USB-Speedlink software, allows for close matching to a known reference sensor, reducing possible sensor errors.

SENSOR BURN-OUT DETECTION

If a sensor wire is broken or becomes disconnected, the SEM206PV output will automatically go to its user-defined level upscale or downscale.

STABILITY

The SEM206PV in-head transmitter incorporates digital technology to ensure accurate, low-drift performance.
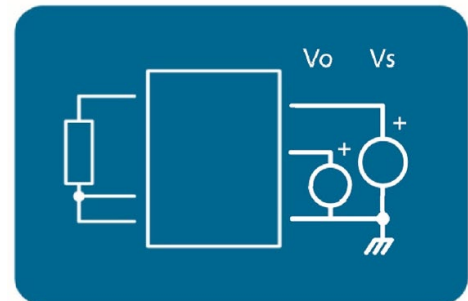
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INPUT		SPECIFICATIONS @20°C
Type/ Function	**Range/ Description**	**Accuracy/ Stability**
Pt100 2 or 3 wire	(-200 to 850) °C	± 0.2°C ± 0.05 % of reading *2
Thermal drift	Zero at 20°C	±0.02°C/°C
Minimum span	25°C *1	
Linearization	BS EN 60751(IEC 751) standard / JISC 1604	
Excitation current	Approximately	1 mA
Lead resistance effect	0.002°C / Ohms	
Maximum lead resistance	20 Ohms per leg	
*1 Any span may be selected; full accuracy is only guaranteed for spans greater than the minimum recommended		
*2 Basic measurement accuracy includes the effects of calibration, linearization and repeatability		

OUTPUT		SPECIFICATIONS @20°C
Type/ Function	**Range/ Description**	**Accuracy/ Stability/ Notes**
Three wire voltage	(0 to 10) Volts	(V output /2000) or 3 mV (Whichever is the greater)
Thermal drift	Zero at 20°C	1 mV /°C Typical (2 mV /°C Max)
Maximum output Voltage	10.5 V	In high-burnout condition
Minimum output Voltage	< 0.0 V	In low-burnout condition
Supply voltage effect	0.05 mV / V	
Minimum output load	5000 Ohms	2 mA @ 10V
Supply	(15 to 30) V DC	SELV

| USB USER INTERFACE		
Type/ Function	**Range/ Description**	**Notes**
Configuration hardware	USB configuration module	USB-CONFIG-MK3
Configuration software	USBSpeedLink	Download www.status.co.uk
Sensor configuration	Temperature range for (0 to 10) V retransmission Sensor offset Burnout voltage	°C or °F °C or °F Upscale or downscale
Read live data	Temperature Output	°C or °F Volts
Save/ Open configuration		To/ From file

GENERAL	
Function	**Description**
Update time (Input)	500 ms
Response time (Output)	1 second to 70% of final value
Start-up time	4 seconds
Warm-up time	60 s to full accuracy
Default configuration	Pt100 (0 to 100) °C, upscale burnout
Connection terminals	3,4,5 (RTD) input; 1(+),2 (-) supply; terminal 6 (V out)

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ENVIRONMENTAL	
Function	**Description**
Temperature	Operating/Storage (-30 to 70) °C / (-40 to 85) °C
Humidity	Operating/Storage (10 to 90) %RH non-condensing
Protection requirement	>= IP65 for housing
USB configuration ambient	To be configured within (10 to 30) °C

MECHANICAL	
Function	**Description**
Dimensions	43.9 mm diameter; 24 mm height
Fixing centres	2 x 4.9 mm holes on 33 mm centres
Centre hole	6.35 mm hole for wiring aid
Weight	31 g
Terminals	Screw clamp

Dimensions in mm
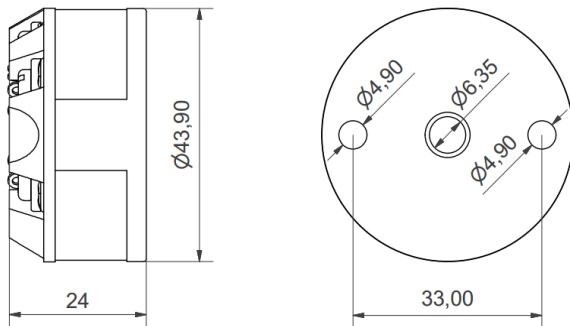
Fixing holes 2 x Ø5.5 mm, Centre hole Ø4.5 mm

APPROVALS	
EMC	BS EN 61326: Note - Compliance tested with 3 m input wires
Ingress protection	BS EN 60529
RoHS Directives 2 & 3	2011/65/EU & EU 2015/863, and the UK designated standards

ORDER CODE	SEM206PV

ACCESSORIES	
Configuration software	USBSpeedLink (free of charge from www.status.co.uk)
Configuration device	USB-CONFIG-MK3
Rail mount clip	RMK/3T
Clip spring mount screws	SMK/3
Head options	Please refer to www.status.co.uk

To maintain full accuracy annual calibration is required.

The data in this document is subject to change. Status Instruments assumes no responsibility for errors.

STATUS INSTRUMENTS